

WE CLAIM:

1. A method for polishing a ferrule including an optical fiber, the ferrule including an end face, the method comprising:

recessing an end of the optical fiber relative to the end face of the ferrule; and

polishing the end face of the ferrule after the end of the fiber has been recessed relative to the end face of the ferrule.
2. The method of claim 1, wherein the end face of the ferrule is polished until the end of the optical fiber is flush with the end face of the ferrule.
3. The method of claim 1, wherein the end face of the fiber is recessed relative to the end face of the ferrule by polishing the end face of the ferrule with a cerium oxide film.
4. The method of claim 1, wherein the end face of the ferrule is polished with a polishing film having a coarseness less than 1 micron.
5. The method of claim 4, wherein the polishing film includes silicon dioxide.
6. *The method of claim 3, wherein the polishing film includes silicon dioxide.*
7. A method for polishing a ferrule including an optical fiber, the ferrule including an end face, the method comprising:

removing a hackle of the optical fiber;

polishing a radius and apex into the end face;

recessing an end of the optical fiber relative to the end face of the ferrule; and
final polishing the end face of the ferrule after the end of the fiber has been
recessed relative to the end face of the ferrule.

8. The method of claim 7, wherein the end face of the ferrule is polished
until the end of the optical fiber is flush with the end face of the ferrule.

9. The method of claim 7, wherein the end face of the fiber is recessed
relative to the end face of the ferrule by polishing the end face of the ferrule with a
cerium oxide film.

10. The method of claim 7, wherein the end face of the ferrule is polished
with a polishing film having a coarseness less than 1 micron.

11. The method of claim 10, wherein the polishing film includes silicon
dioxide.

12. The method of claim 9, wherein the polishing film includes silicon
dioxide.

13. A method for polishing a ferrule including an optical fiber, the ferrule
including an end face, the method comprising:

polishing the end face with a first polishing film;

recessing an end of the optical fiber relative to the end face of the ferrule; and
polishing the end face of the ferrule with a second polishing film after the end of
the fiber has been recessed relative to the end face of the ferrule, the second polishing
film having a finer coarseness than the first polishing film.

14. The method of claim 13, wherein the end face of the ferrule is polished with the second polishing film until the end of the optical fiber is flush with the end face of the ferrule.

15. The method of claim 13, wherein the end face of the fiber is recessed relative to the end face of the ferrule by polishing the end face of the ferrule with a cerium oxide film.

16. The method of claim 13, wherein the second polishing film has a coarseness less than 1 micron.

17. The method of claim 16, wherein the second polishing film includes silicon dioxide.

18. The method of claim 15, wherein the second polishing film includes silicon dioxide.

19. The method of claim 13, wherein the end of the fiber is recessed a distance sufficient to remove an indexing layer.

20. The method of claim 13, wherein the end of the fiber is recessed 100-600 nanometers.

21. A method for removing a hackle of an optical fiber from an end face of a ferrule, the method comprising:

placing the ferrule in a fixture; and

mechanically bringing the end face of the ferrule into contact with a polishing structure such that the hackle is removed.

22. The method of claim 21, wherein the end face of the ferrule is brought into contact with the polishing structure by lowering the fixture toward the polishing structure with a lift mechanism.